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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,918	12/14/2004	Joachim Wilhelm Hellmig	NL 020529	8895
24737 7590 01/09/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER DANIELSEN, NATHAN ANDREW	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/517,918

**Applicant(s)**

HELLMIG, JOACHIM WILHELM

**Examiner**

Nathan Danielsen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. Claims 1-32 are pending. Claims 15-32 were added in applicant's amendment filed 25 October 2006.

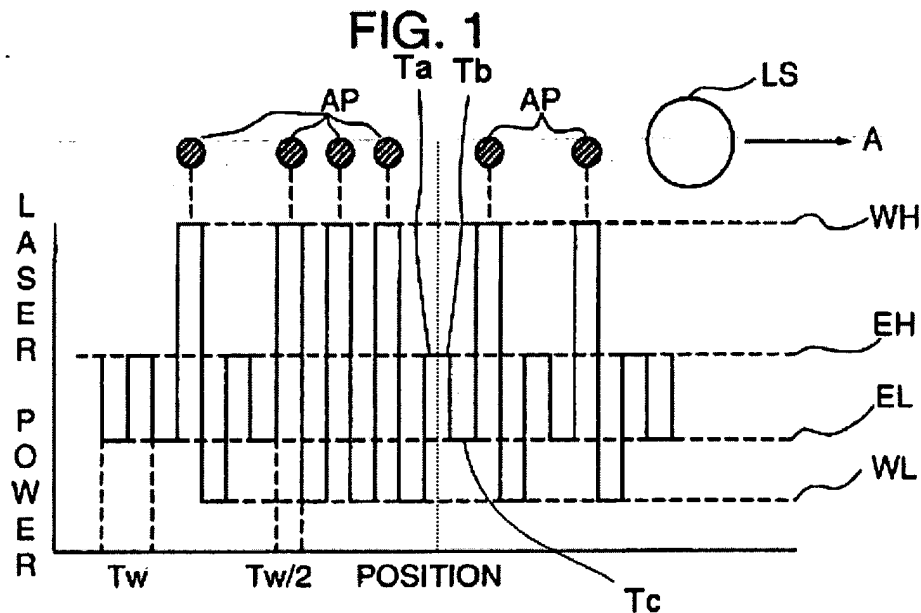
### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8 and 11-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Minemura et al (US Patent 5,608,710).

Regarding claims 1, 11, 14, 19, 22, 25, and 27, Minemura discloses methods of (and corresponding recording devices for) recording marks representing data in an information layer of a record carrier by irradiating the information layer by means of a pulsed radiation beam (figure 1), each mark being written by a sequence of pulses (pulses having power levels WH and WL in figure 1), the recorded marks being erasable by irradiating the information layer with an erase radiation beam (col. 3, lines 21-26), wherein said erase radiation beam between two successive sequences of pulses for writing marks consists of three erase periods (Ta, Tb, and Tc in figure 1 on the following page), and wherein said erase radiation beam has a first erase power level for a first erase period (Ta in figure 1 on the following page), a second erase power level higher than or equal to said first erase power level for a second erase period (Tb in figure 1 on the following page), and a third erase power level lower than said first and second erase power levels for a third erase period (Tc in figure 1 on the following page).



Further regarding claims 25 and 27, Minemura discloses where the recorded marks representing data including a high period and low period (pulses having power levels WH and WL corresponding to marks AP in figure 1).

Regarding claims 2 and 12, Minemura discloses where said third erase power level is lower than said first erase power level (since Minemura meets the claimed "or greater" part of the independent claims, Minemura inherently meets this limitation with Ta, Tb, and Tc in figure 1; alternatively, the final pulse of power level WL of each write pulse sequence can be interpreted to be a part of the erase pulse sequence).

Regarding claims 3 and 13, Minemura discloses where said first erase power level and said third erase power level are substantially equal and lower than said second erase power level (since Minemura meets the claimed "or greater" part of the independent claims, Minemura inherently meets this limitation with Ta, Tb, and Tc in figure 1; alternatively, the final pulse of power level WL of each write pulse sequence can be interpreted to be a part of the erase pulse sequence).

Regarding claim 4, Minemura discloses where said second erase power level is lower than the write power level (w) of said pulses of said pulsed radiation beam for recording marks (EH and EL as compared to WH in figure 1).

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Regarding claim 5, Minemura discloses where said third erase power level is higher than the bias power level (b) between said pulses of said pulsed radiation beam for recording marks (EH and EL as compared to WL in figure 1).

Regarding claim 6, Minemura discloses where said first erase period and said second erase period are shorter than said third erase period (Ta and Tb as compared to Tc in figure 1 on the previous page).

Regarding claim 7, Minemura discloses where the sum of said first erase period and said second erase period is shorter than half the shortest mark being recorded (figure 1; where, due to the thermal conductivity of the recording substrate, the recorded mark will have a period slightly greater than  $T_w/2$ ).

Regarding claim 8, Minemura discloses where said information layer has a phase which is reversibly changeable between a crystal phase and an amorphous phase (col. 3, lines 21-26).

Regarding claims 15, 17, 20, and 23, Minemura discloses where the marks represent data including a high period and a low period (figure 1), and where a start of the erase radiation beam substantially coincides with a beginning of the low period (figure 1).

Regarding claims 16, 18, 21, 24, 26, and 28, Minemura discloses where the marks represent data including a high period and a low period (figure 1), and wherein the three erase periods substantially fill the low period (figure 1).

Regarding claims 29 and 31, Minemura discloses a method of (and associated recoding device for) recording marks on a record carrier, the method comprising the acts of:

irradiating the record carrier with a radiation beam, each mark being written by a sequence of pulses (col. 3, lines 21-51 and figure 1); and

erasing recorded marks by irradiating the record carrier with an erase radiation beam (col. 3, lines 21-51 and figure 1);

wherein the recorded marks represent data including a high period and a low period (figure 1),  
and

wherein the erase radiation beam includes pulses that substantially fill the low period (figure 1).

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Regarding claims 30 and 32, Minemura discloses where a start of the erase radiation beam substantially coincides with a beginning of the low period (figure 1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minemura, in view of Nagata et al (US Patent 6,456,584; hereinafter Nagata).

Regarding claims 9 and 10, Minemura discloses everything claimed, as applied to claim 1. However, Minemura fails to disclose where the record carrier comprises at least two layers with one layer being at least partially transparent.

In the same field of endeavor, Nagata discloses where said record carrier comprises at least two information layers (col. 3, lines 51-59) and at least one of said two information layers is at least partially transparent (col. 4, lines 44-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the record carrier of Minemura with the structure of Nagata for the purpose of recording data on a record carrier having a large storage capacity (col. 5, lines 65-67).

***Response to Arguments***

6. Applicant's arguments filed 23 October 2007, with respect to the rejection(s) of claim(s) 1-32 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Minemura.

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***Closing Remarks/Comments***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571) 272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan Danielsen  
01/04/2008

/William Korzuch/  
SPE, Art Unit 2627